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PATENT APPLICATION TRANSMITTAL LETTER

(Small Entity)

Docket No.

1467.006

PTO

09/610128

TO THE ASSISTANT COMMISSIONER FOR PATENTS

Submitted herewith for filing under 35 U.S.C. 111 and 37 C.F.R. 1.53 is the patent application of:

Bruce Kerievsky

For: AN INTERACTIVE TALKING ELE CTRONIC COOKBOOK

Enclosed are:

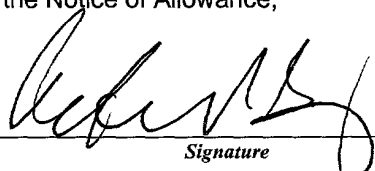
- ☒ Certificate of Mailing with Express Mail Mailing Label No. EL414754625 US
- ☒ 5 sheets of drawings.
- ☐ A certified copy of a application.
- ☒ Declaration ☒ Signed. ☐ Unsigned.
- ☒ Power of Attorney
- ☐ Information Disclosure Statement
- ☐ Preliminary Amendment
- ☒ One Verified Statement(s) to Establish Small Entity Status Under 37 C.F.R. 1.9 and 1.27.
- ☐ Other:

CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	36	- 20 =	16	x \$9.00	\$144.00
Indep. Claims	3	- 3 =	0	x \$39.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$345.00
TOTAL FILING FEE					\$489.00

- ☒ A check in the amount of \$489.00 to cover the filing fee is enclosed.
- ☒ The Commissioner is hereby authorized to charge and credit Deposit Account No. 02-2105 as described below. A duplicate copy of this sheet is enclosed.
- ☐ Charge the amount of as filing fee.
- ☒ Credit any overpayment.
- ☒ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
- ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: July 5, 2000


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**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9(f) AND 1.27 (b)) - INDEPENDENT INVENTOR**

Docket No.
1467.006

Serial No.

Filing Date

Patent No.

Issue Date

Applicant/

Patentee: **Bruce Kerievsky**Invention: **AN INTERACTIVE TALKING ELECTRONIC COOKBOOK**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled above and described in:

- ☒ the specification to be filed herewith.
☐ the application identified above.
☐ the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ No such person, concern or organization exists.
☐ Each such person, concern or organization is listed below.

***NOTE:** Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities (37 CFR 1.27)

FULL NAME _____

ADDRESS _____

☐ Individual☐ Small Business Concern☐ Nonprofit Organization

FULL NAME _____

ADDRESS _____

☐ Individual☐ Small Business Concern☐ Nonprofit Organization

FULL NAME _____

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I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF INVENTOR Bruce KerievskySIGNATURE OF INVENTOR DATE: 6/30/2000

NAME OF INVENTOR _____

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An Interactive Talking Electronic Cookbook

Related Applications

The present application is a continuation-in-part of U.S. Patent Application Serial No.09500,599, filed February 10, 2000 (pending), and claims all rights of priority thereto.

Field of the Invention

The present invention generally relates to an apparatus facilitating the cooking process for a home chef. More specifically, the present invention relates to an apparatus which uses spoken instructions to prompt and direct the cook and understands a set of specific spoken commands pertinent to the food preparation and recipe organization processes. Additionally, the present invention allows recipes to be input via a hand-held scanner, Internet download, a keyboard or any other input device known in the art; and further allows these recipes and shopping lists created based on these recipes to be shipped to other recipients.

Background of the Invention

According to the present practice, one of the most popular methods of presenting information to a cook is through a recipe book, i.e. cookbook. Ordinary cookbooks, however, are often awkward to use while engaged in food preparation.

Recently a variety of electronic cookbooks were developed to facilitate the cooking process.

One example of the electronic cookbook is presented in U.S. Patent No. 5,836,446, the disclosure of which is fully incorporated herein by reference. The '446 patent discloses a computerized electronic cooking encyclopedia intended to provide information about preparation of a worldwide variety of foods and beverages. The software provides a hierarchical structure whereby the user can branch through multiple paths to access cultural information, menu category, ingredients and preparation methods. When the cooking encyclopedia of the '446 patent is connected to an audio enabled database, it is capable of giving vocal instruction to the cook. The cook, however, can not interact with the cookbook. For example, the cook can not issue vocal commands to the book, can not vocally inform the book about the number of portions he/she intends to cook, can not turn the book "on" or "off" vocally, etc. Additionally, the cook can not add recipes to the cookbook disclosed by the '446 patent. Each recipe in the disclosed encyclopedia has to be hierarchically formatted and connected to all complicated features of the book. An ordinary cook, without any computer programming experience, can not do it.

Thus there is a substantial interest in the art for an electronic cookbook which can interact with a cook vocally, which allows a cook to add recipes to the database and which is sufficiently simple for a cook to operate.

Summary of the Invention

It is an object of the present invention to provide an apparatus for facilitating food preparation which will allow the user to interact with the apparatus by vocally communicating user's commands and by receiving spoken cooking instruction.

It is another object of the present invention to provide an interactive apparatus for facilitating food preparation which will allow the user to load additional recipes into the database of recipes already stored on the apparatus.

Other objects, advantages and features of this invention will be more apparent hereinafter.

The device accomplishing the above enumerated objects is an interactive electronic cookbook which uses spoken instructions to prompt and direct the cook during food preparation and understands a set of specific vocal commands pertinent to the food preparation and recipe organization processes. Additionally, the present invention allows recipes to be input via a hand-held scanner, Internet download, a

keyboard or any other input device known in the art; and further allows these recipes and shopping lists created based on these recipes to be shipped to other recipients electronically.

Brief Description of the Drawings

A full understanding of the invention can be gained from the following description of the preferred embodiment when read in conjunction with the accompanying drawings in which:

Figure 1 is a flow diagram depicting the available functions of the cookbook and how they can be accessed by the user;

Figure 2 is a flow diagram showing interaction between different components of the cookbook;

Figure 3 is a table of files and their associated fields which are included into a data base of the preferred embodiment of the present invention;

Figure 4 is a table of fields within the Recipe Part file and their assigned values corresponding to a representative recipe;

Figure 5 is a table of fields within the Recipe Assembly file and their assigned values corresponding to the representative recipe;

Figure 6 is a table of fields within the Recipe Ingredients file and their assigned values corresponding to the representative recipe; and

Figure 7 is a table of fields within the Recipe Header file and their assigned values corresponding to the representative recipe.

Detailed Description of the Preferred Embodiment and the Drawing

In accordance with the preferred embodiment of the present invention, an electronic cookbook is provided which, as shown in Fig. 2, has a memory storage device 100 containing a hierarchically structured database of cooking recipes. Any known memory storage device may be used in connection with the present invention, such as a hard drive, CD-ROM, zip drive, etc. Loaded, formatted and edited recipes may be added to the database, as shown in step 102, and may be later selected by a user, as in step 104, to be either displayed on a screen 108, preferably provided with the cookbook, step 106, or transferred to the text-to-speech software, step 110, to be converted into spoken language and communicated to the user over a provided speaker 112, step 114. Recipes may be added to the database through different input devices 116, such as a keyboard or a scanner, as in step 120, or orally, steps 122 and 124, through a microphone 118 and voice recognition software 126. In the preferred embodiment of the present invention the ViaVoice voice recognition and text-to-speech application is used.

ViaVoice is produced by and may be obtained from the IBM Corporation. However, any other suitable voice recognition or text-to-speech software may be used in connection with the present invention, for example DragonDictate, currently manufactured by Dragon Systems.

Shown in Fig. 3 is the design of the data-base of recipes used in the preferred embodiment of the present invention. The following files should preferably be included for each recipe within the data-base: Recipe Header, Recipe Part, Recipe Ingredient, Recipe Assembly, Ingredient, Measure Preparations (individual), Preparations (linked list of individual preparations), Course (linked list).

The above files will be more particularly described with regard to the following representative recipe:

Bruce's Variation on Odd Flavor Chicken

TIME: 1 hour

Ingredients

1 chicken, 2 to 3 pounds

1 head lettuce

INGREDIENTS for SAUCE, GROUP A

4 tablespoons soy sauce

2 tablespoons honey

1 clove crushed garlic

½ teaspoon salt

INGREDIENTS for SAUCE, GROUP B

3 tablespoons peanut or corn oil

2 scallions, chopped

4 slices fresh ginger root, minced

½ teaspoon Szechuen peppercorn, slightly crushed

¼ teaspoon crushed red pepper

Preparation and Cooking

Wash and clean the chicken. Bring 3 quarts of water to boil in a large, deep pan. Submerge the chicken in the boiling water for 15 minutes. Turn off the flame and let the chicken cool in the water for at least 20 minutes before taking it out. Remove all skin and bones from chicken. Break into bite sized pieces and place in refrigerator. Wash, shred and arrange the lettuce leaves on a large platter. Arrange the chicken over the lettuce. Pour the warm sauce (see below) over the chicken and serve.

To prepare the sauce, combine the ingredients in Group A in a bowl and let stand for at least 5 minutes. In a small pan over a low flame heat the Group B ingredients for about 3 minutes. Then pour B into the bowl containing A. Mix well. The sauce is now ready to pour over the chicken.

Tips

This dish can be prepared beforehand. The chicken can be cooked the day before, cleaned and cut an hour or so before dinnertime, arranged over lettuce on the platter and left in the refrigerator. The two groups of ingredients for the sauce can be assembled and placed in a bowl and saucepan respectively. The final preparation takes but a few minutes. Since this dish is served cold, it is especially good for summer days.

The original Chinese name is Odd Flavor Chicken, because it uses such a variety of ingredients.

The Recipe Header file will preferably have the following data fields: recipe number, a five digit number assigned by the system; title, text field containing up to 80 characters naming the recipe; course, a two-character abbreviation obtained from the Course file; parts, a one-digit number indicating number of parts to the recipe; servings, a two-digit number quantifying the number of portions served; and

scalability, a boolean indicator indicating whether ingredients are scalable. Shown in Fig.7 is the Recipe Header file having its data fields identified with respect to the recipe example given above. The system assigned number 12345 to the recipe, this number will serve as the recipe number identifying this particular recipe within the data structure. The title of the recipe is stored as a text in the title field. Abbreviation EN is used to characterize the recipe as an entree in the course field of the data-base. There are 3 parts of the recipe and it is intended for 4 servings. These two numbers are stored as the parts and servings fields of the data structure, as shown in Fig. 7. The boolean indicator Y is used to indicate that the recipe is scalable, i.e., it may be recalculated for a different number of servings.

The Recipe Part file will preferably have the following data fields: recipe number, a five digit number assigned by the system; part, a one-digit number indicating the part of the recipe; part name (if there are more than one part), a description of the part having up to thirty characters; servings, a two-digit number quantifying servings or measure; measure, weight or volume from the Measure file; and notes (optional), text item of variable length to assist a chef. As shown in Fig. 4 with respect to the above recipe example, the Recipe Part file adds the following information to the data structure: the recipe has three parts (the part field); their names are "Main", "Sauce Group A" and "Sauce Group B" (the part name field), and notes helpful to a cook (the notes field). Data-base fields which are common for several files should have the same

value assigned to them throughout the data structure of the same recipe. For example, the servings element for recipe 12345 will always be 4 regardless of the file it is used in.

The Recipe Ingredients file will preferably comprise the following data fields: recipe number; part; ingredient number, a five-digit number from an Ingredient file; amount, a number indicating quantity of the ingredient as a range; measure, weight or volume from a Measure file; and principal, a boolean indicator of whether the ingredient is a principal one. The Recipe Ingredients file may also optionally include the following fields: size, a number indicating the size of an item as a range; units, a descriptor associated with some ingredient types (e.g., clove, head, spring, pinch, bunch, etc.); preparation, a pointer to a linked list of preparation types; modifier (e.g., small, medium, large, jumbo, etc.); container, indicating the type of container (e.g., can(s), jar(s), box, etc.); comment, a text item having up to thirty characters; and alternate, a pointer to an alternative ingredient record. As shown in Fig. 6, several ingredients are identified in the ingredient field of the data structure for the above recipe. In the preferred embodiment of the invention, the names of the ingredients are coded as five-digit numbers. Generally, with respect to Fig.6, all entries which appear italicized are preferably stored in different files of the data-base in coded form and are shown in the figure in uncoded form for the sake of clarity. Each of the ingredients has a corresponding amount listed in the amount field. In order to properly communicate the

recipe, the amount field should be read in conjunction with the measure field and the units field. For example, the ingredient "garlic" should be used for the above recipe in the amount of 1 (the amount field) clove (the unit field), and the ingredient "peanut oil" should be used in the amount of 3 (the amount field) tablespoons (the measure field). Some ingredients, for example dried red pepper, require a preliminary individual preparation (it has to be "crushed") which is indicated in the preparation field.

The Recipe Assembly file preferably has the following fields: recipe number; part; sequence number, a two-digit number generated by the system; and instruction, a text item ending with a period. As shown in Fig. 5, the text of the "Preparation and Cooking" section of the above recipe is divided into separate recipe preparation steps, and then each of the steps is entered into the data-base as a textual field with a corresponding sequence number assigned by the system. There is a different sequence for each part of the recipe. For example, step number one for the first part of the above recipe is to "wash and clean the chicken" and step number one for the third part of the recipe is to "... heat the Group B ingredients for about 3 minutes."

In addition to the above files, the data structure will preferably contain several auxiliary files used, for example, for storing the coded information. There are several of these files, for example the ingredient file, the measure file and the individual preparation file. The Ingredient file should preferably have the following data elements:

ingredient code, a five-digit number assigned by the system; description, a textual description of the ingredient; food type (e.g., grain, spice, fruit, vegetable, fish, etc.); and, optionally, nutritional values, currently provided by the Department of Agriculture. The Measure file will preferably have a measure code and description elements. The individual Preparation file will preferably only have a preparation element taken from the list of possible preparation processes, such as shredded, chopped, minced, washed, boiled, etc. The Preparation's linked list file will, in addition to the preparation element, have two pointer elements, a pointer to the next preparation and a pointer to the previous preparation. The Course file may have two elements: a course code, which is a two-character code describing a course type, and a course description, for example, soup, appetizer, entree, etc. The cookbook may be made programmable, allowing each user to include additional files and/or data elements in accordance with the user's needs.

In accordance with the present invention, when the apparatus is powered on a menu of options appears, each of which can be chosen by a user by means of keyboard, mouse or voice. As shown in Fig. 1, the following options are preferably available for the user: SELECT, TIME, EDIT, GET RECIPE, RULES, LOAD RECIPE, MOVE RECIPE, GLOSSARY, SHOP and STOP. SELECT, block 10, allows a cook to select a recipe from those available in the memory. TIME, block 20, enables the naming and setting of time. A plurality of different names and timers may be set.

COOK, block 40, prompts the cook vocally through the instructions of the selected recipe. EDIT, block 30, permits the creation of new and the alteration of existing recipes. GET RECIPE, block 31, enables the cook to prepare text for loading as a recipe from a scanner, a sequential file on a diskette or CD-ROM, or allows downloading of recipe text from the Internet. LOAD RECIPE, block 32, is the process by which a new recipe to be added to the cookbook from a sequential file (e.g., text file) is parsed interactively using the cook to resolve ambiguities, and then is tested and accepted into the cookbook. RULES, block 33, permits the cook to choose whether to use metric or imperial ingredient measure and to change the default order of recipes in the SELECT option. MOVE RECIPE, block 34, provides for copying recipes between media and for recipe removal. SHOP, block 35, enables the cook to edit, print and transmit a shopping list to a supermarket. GLOSSARY, block 36, allows the user to choose a term for which the system can read aloud an explanation. Finally, STOP closes all files and powers down the cookbook. It is to be understood that the invention may be provided with foreign language software. The commands described in the present application will then be translated into the appropriate language.

The SELECT option displays all recipes in the cookbook's database arranged in the default hierarchical order, selected and changeable under RULES. Navigation through the recipes is preferably done by voice input; however, keyboard or mouse may also be used. The following set of commands may be implemented on the apparatus:

PAGE-UP, PAGE-DOWN, UP-LINE, DOWN-LINE, TOP, BOTTOM, MIDDLE and LETTER A through LETTER Z. Any other simple navigational command may be programmed into the apparatus and recognized by the voice recognition software. Once the desired recipe is highlighted, the cook may display it, block 37, begin cooking using the highlighted menu, edit it, send it to a selected destination, block 38, for example via e-mail or fax, set a timer, print it, block 39, create a list of ingredients required for the selected recipe, block 41, or return to the START. See, Fig. 1. Each recipe preferably has an ingredients section, listing all the ingredients and their quantities, an assembly section, giving step by step instructions to the cook, and a notes section, giving some suggestions and/or recommendations to the cook. Any or all of the above sections may be spoken vocally to the cook by the cookbook.

The TIME option allows the cook to set as many timers as are needed. When setting a timer, the user is preferably prompted vocally for a dish item name for which the timer is being set up. The name is recorded and will be associated with the timer until the timer expires. The user is then prompted to input time, usually in minutes or hours and minutes. Depending on the vocabulary size of the voice recognition software, amounts may be specified as usual (e.g. twenty seven) or as several single digits (e.g. two, seven). When a timer expires, the bell is rung, the message is displayed on the screen, and the specific timer name is vocally announced.

EDITing occurs to recipes already loaded in the cookbook, or to new recipes that must conform to the structure of the cookbook. The input for this process is preferably via a keyboard. This option allows the cook to test the entered or altered recipe by having the recipe instructions read aloud. When recipes are newly entered, ingredients are chosen from a standard list, obtained from the U.S. Department of Agriculture's Food Description File and extendible by the cook when new or unlisted ingredients are encountered. The ingredients should preferably be standardized and comparable with supermarket names, so that the list of ingredients could be sent out to a supermarket for shopping.

The RULES option allows the cook to select two defaults: the measure and the order of the recipes on the selection screen. The cook may select metric or non-metric measurements system. If a particular recipe was entered in one system it may be converted into the other at the cook's request. There are three preferred orders for the recipes to be displayed on the selection screen: alphabetically by recipe name, alphabetically by recipe name within course, or alphabetically by recipe name within the principal ingredient. The cook may switch the default recipe order while in the process of searching through the recipes on the selection screen by using the command RULES. It is not necessary to return to START and then access RULES.

The COOK option preferably prompts the cook vocally through the selected recipe. The cookbook interacts with the cook by first asking to identify the number of portions that the recipe is intended for. If the recipe was entered as scalable (for the different number of portions), the cookbook will recalculate the ingredients and present to the cook a finished version of the recipe scaled for the desired number of portions. There is preferably a small set of voice commands which allow the assembly and notes sections of the selected recipe to be spoken to the cook when he/she is ready for them. The commands included in (but not limited to) the preferred embodiment are: Next Instruction; Last Instruction; Repeat; Select Another (recipe); Other Recipe, to repeat the last instruction from the other recipe; Set Time, to set a timer; Tell Time, to indicate time remaining on all timers; Read Note, to read the recipe notes; and Return to Start. All of the above commands may be entered from the keyboard, if desired.

GET RECIPE is a preparatory option, which allows the cook to input the recipe into the cookbook. In order to be input, the recipe may be scanned by an attached optional line scanner, downloaded from the Internet or another storage medium, copied from a diskette, or entered manually from a keyboard. Depending on the amount of available memory and the quality of the voice recognition software, recipes may be entered vocally. All recipes, regardless of the type of input, are entered as sequential files, which can subsequently be used to structure the text, with the user's assistance,

for inclusion as a recipe in the cookbook. As shown in Fig. 1, after a recipe has been created as a sequential file, the LOAD RECIPE process is automatically invoked. The LOAD RECIPE option formats the text of the input recipe to conform to the format of the cookbook. Depending on how the externally originated recipe was initially formatted it might be easy or difficult for the program to discern and assign values to the various ingredients. The cook is enlisted to identify, and possibly reenter, parts of the recipe that the program can not discern. The program is also designed to automatically substitute and insert quantities from the ingredients section into the assembly section at the first mention of an ingredient, so that the cook does not have to check back at the ingredient list to know how much of the ingredient to use. The program then loads the entire recipe in a temporary form, showing the recipe on the screen. The cook may visually review the recipe and/or test it by making the cookbook recite the instructions vocally. If the recipe tests satisfactorily, the cook accepts it into the cookbook and the sequential file is deleted. In addition to recipes themselves, the nutritional information about a particular ingredient or a particular recipe may be stored in the cookbook and supplied to the cook at his/her request. Such nutritional information is available from the Department of Agriculture for most of the commonly used ingredients.

The MOVE RECIPE option allows for a variety of movements of recipes. A recipe can be duplicated using another name and then edited to provide uniqueness. Some

or all of the recipes in the cookbook can be copied to a disk, a writable CD or a magnetic tape. Recipes already in the cookbook's format may be copied from a disk, CD-ROM, DVD or any other storage media directly into the cookbook, thereby avoiding the GET RECIPE and the LOAD RECIPE processes. MOVE RECIPE also allows for removal of any recipe from the cookbook if desired.

The PRINT option allows the cook to print any selected or all recipes in the cookbook. Any individual recipe may be printed as written or as a version scaled for the required number of portions. The cook may print an ingredients list for the selected recipe(s). Related to the PRINT option is the SHOP option, which allows the cook to create and edit the shopping list from the list of necessary ingredients for all selected recipes. The shopping list can be printed or sent electronically, e.g. via e-mail, to a supermarket or an on-line grocery store for fulfillment.

The GLOSSARY option permits the cook, using the same set of voice navigational commands available in the SELECT option, to read or, if desired, listen to a description of cooking terms with which the cook is unfamiliar.

The present invention may be executed on a wide variety of electronic carriers. For example, the electronic cookbook may be implemented as an independent

electronic handheld device or designed as an integral part of a household appliance. It can also be used as a standalone computer application or integrated into a website on the Internet. To facilitate the vocal interaction between the cook and the cookbook, the device may be provided with a wireless microphone. If the cookbook is constructed as a handheld electronic device, it may be provided with a serial or USB port to enable network capability. The network connection may also be wireless. Connecting several such cookbooks into a network will allow their users to exchange recipes without using any of the above mentioned input devices. The same serial, USB or wireless port may also be used to connect the device to a personal computer.

While the invention has been shown and described in its preferred embodiment, it should be appreciated that the invention may take many other forms without departing from the scope of the invention taught by the inventor. The scope of the claims, as interpreted by the Courts, both literally and with due deference to the doctrine of equivalents defines the scope of protection to which the inventor is entitled.

I claim as follows:

1. An apparatus for facilitating the food preparation process, whereby a user can interact with said apparatus to receive instructions for preparation of a variety of dishes, comprising:

- a. memory means, said memory means storing a plurality of cooking recipes in a hierarchically structured database;
- b. selection means, said selection means allowing said user to select at least one recipe from said plurality of recipes stored on said memory means;
- c. recipe loading means, said recipe loading means allowing said user to add recipes to said hierarchically structured database; and
- d. communication means, said communication means communicating cooking instructions from said at least one selected recipe to said user, wherein said communication means further comprise text-to-speech and voice recognition means, said text-to-speech and voice recognition means configured to fulfill and recognize spoken commands given by said user to said apparatus.

2. An apparatus for facilitating the food preparation process as claimed in Claim 1 further comprising editing means, said editing means allowing said user to edit any one of said plurality of cooking recipes stored on said memory means.

3. An apparatus for facilitating the food preparation process as claimed in Claim 1, wherein said recipe loading means further comprise formatting means, said formatting means changing the format of said added recipes to conform to the format of said plurality of recipes stored on said memory means.
4. An apparatus for facilitating the food preparation process as claimed in Claim 1 further comprising displaying means, said displaying means displaying said at least one selected recipe.
5. An apparatus for facilitating the food preparation process as claimed in Claim 1 further comprising printing means, said printing means printing a number of recipes from said plurality of recipes stored on said memory means.
6. An apparatus for facilitating the food preparation process as claimed in Claim 1 further comprising glossary means, said glossary means providing explanations for terms contained within said cooking recipes.

7. An apparatus for facilitating the food preparation process as claimed in Claim 1 further comprising timing means, said timing means allowing said user to set time required to prepare said at least one selected recipe.
8. An apparatus for facilitating the food preparation process as claimed in Claim 1, wherein said selection means are further configured to create a list of ingredients from said at least one selected recipe.
9. An apparatus for facilitating the food preparation process as claimed in Claim 1 further comprising sending means, said sending means sending a number of recipes from said plurality of recipes stored on said memory means to recipients designated by said user.
10. An apparatus for facilitating the food preparation process as claimed in Claim 1 wherein said apparatus is an electronic handheld device.
11. An apparatus for facilitating the food preparation process as claimed in Claim 1 wherein said apparatus is a household appliance.

12. An apparatus for facilitating the food preparation process as claimed in Claim 1 wherein said apparatus is a computer application.

13. An apparatus for facilitating the food preparation process as claimed in Claim 1 wherein said apparatus is an Internet website.

14. An apparatus for facilitating the food preparation process, whereby a user can interact with said apparatus to receive instructions for preparation of a variety of dishes, comprising:

- a. memory means, said memory means storing a plurality of cooking recipes in a hierarchically structured database; and
- b. communication means, said communication means communicating cooking instructions from at least one selected recipe from said plurality of cooking recipes to said user, wherein said communication means further comprise text-to-speech and voice recognition means, said text-to-speech and voice recognition means configured to fulfill and recognize spoken commands given by said user to said apparatus.

15. An apparatus for facilitating the food preparation process as claimed in Claim 14 further comprising editing means, said editing means allowing said user to edit any one of said plurality of cooking recipes stored on said memory means.
16. An apparatus for facilitating the food preparation process as claimed in Claim 14 further comprising displaying means, said displaying means displaying said at least one selected recipe.
17. An apparatus for facilitating the food preparation process as claimed in Claim 14 further comprising printing means, said printing means printing a number of recipes from said plurality of recipes stored on said memory means.
18. An apparatus for facilitating the food preparation process as claimed in Claim 14 further comprising glossary means, said glossary means providing explanations for terms contained within said plurality of cooking recipes.
19. An apparatus for facilitating the food preparation process as claimed in Claim 14 further comprising timing means, said timing means allowing said user to set time required to prepare said at least one selected recipe.

20. An apparatus for facilitating the food preparation process as claimed in Claim 14 further comprising sending means, said sending means sending a number of recipes from said plurality of recipes stored on said memory means to recipients designated by said user.

21. An apparatus for facilitating the food preparation process as claimed in Claim 14 wherein said apparatus is an electronic handheld device.

22. An apparatus for facilitating the food preparation process as claimed in Claim 14 wherein said apparatus is a household appliance.

23. An apparatus for facilitating the food preparation process as claimed in Claim 14 wherein said apparatus is a computer application.

24. An apparatus for facilitating the food preparation process as claimed in Claim 14 wherein said apparatus is an Internet website.

25. An apparatus for facilitating the food preparation process, whereby a user can interact with said apparatus to receive instructions for preparation of a variety of dishes, comprising:

- a. memory means, said memory means storing a plurality of cooking recipes in a hierarchically structured database;
- b. selection means, said selection means allowing said user to select at least one recipe from said plurality of recipes stored on said memory means; and
- c. communication means, said communication means communicating cooking instructions from said at least one selected recipe to said user, wherein said communication means further comprise text-to-speech and voice recognition means, said text-to-speech and voice recognition means configured to fulfill and recognize spoken commands given by said user to said apparatus.

26. An apparatus for facilitating the food preparation process as claimed in Claim 25 further comprising editing means, said editing means allowing said user to edit any one of said plurality of cooking recipes stored on said memory means.

27. An apparatus for facilitating the food preparation process as claimed in Claim 25, wherein said selection means are further configured to create a list of ingredients from said at least one selected recipe.

28. An apparatus for facilitating the food preparation process as claimed in Claim 25 further comprising displaying means, said displaying means displaying said at least one selected recipe.

29. An apparatus for facilitating the food preparation process as claimed in Claim 25 further comprising printing means, said printing means printing a number of recipes from said plurality of recipes stored on said memory means.

30. An apparatus for facilitating the food preparation process as claimed in Claim 25 further comprising glossary means, said glossary means providing explanations for terms contained within said plurality of cooking recipes.

31. An apparatus for facilitating the food preparation process as claimed in Claim 25 further comprising timing means, said timing means allowing said user to set time required to prepare said at least one selected recipe.

32. An apparatus for facilitating the food preparation process as claimed in Claim 25 further comprising sending means, said sending means sending a number of recipes from said plurality of recipes stored on said memory means to recipients designated by said user.

33. An apparatus for facilitating the food preparation process as claimed in Claim

25 wherein said apparatus is an electronic handheld device.

34. An apparatus for facilitating the food preparation process as claimed in Claim

25 wherein said apparatus is a household appliance.

35. An apparatus for facilitating the food preparation process as claimed in Claim

25 wherein said apparatus is a computer application.

36. An apparatus for facilitating the food preparation process as claimed in Claim

25 wherein said apparatus is an Internet website.

Abstract of the Invention

An interactive electronic cookbook, which uses spoken instructions to prompt and direct the cook during food preparation and understands a set of specific vocal commands issued by the cook and pertinent to the food preparation and recipe organization processes. The cookbook also allows recipes to be input via a hand-held scanner, Internet download, a keyboard or any other input device known in the art; and further allows these recipes and shopping lists created based on these recipes to be shipped to other recipients electronically.

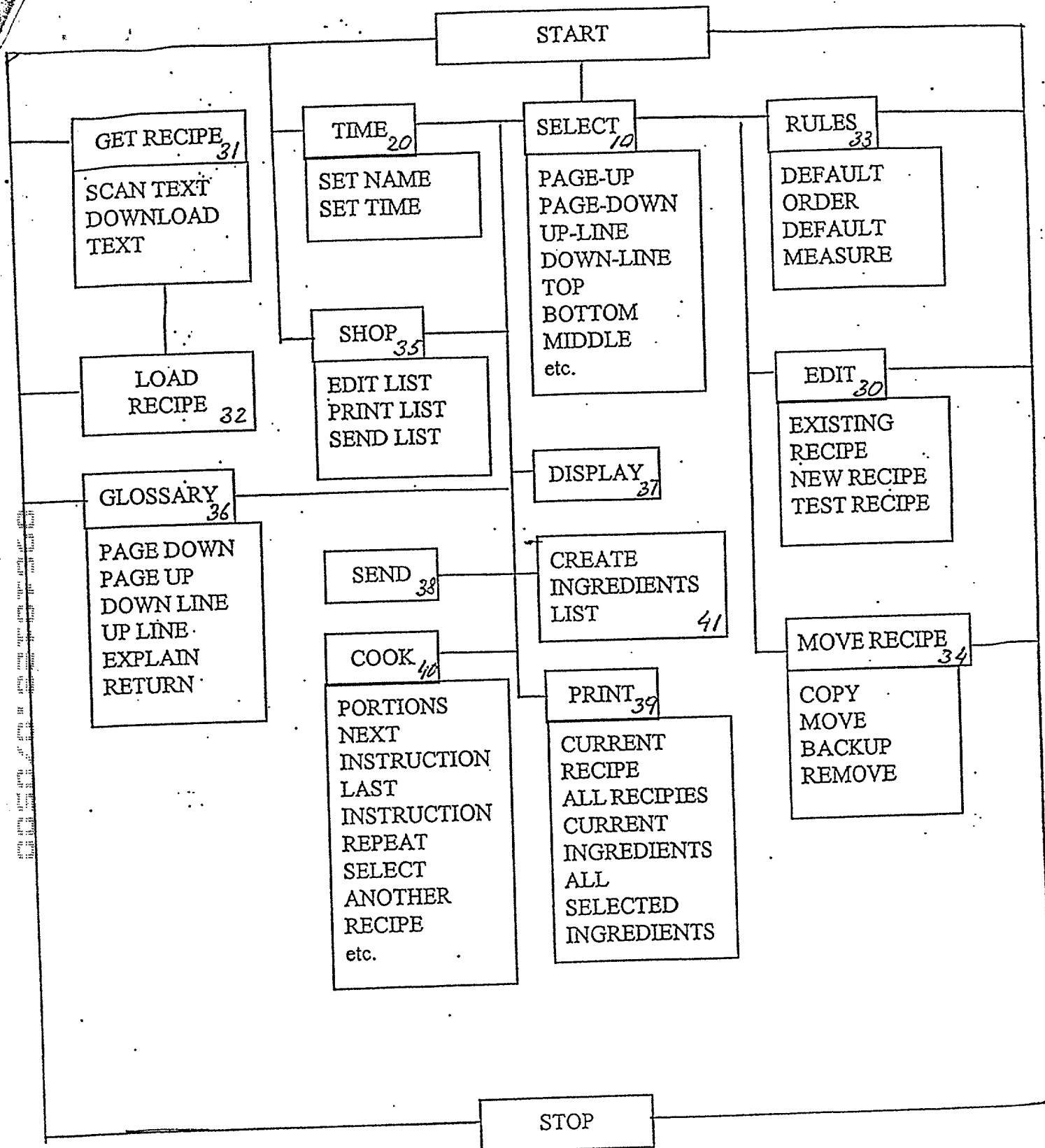


Fig. 1

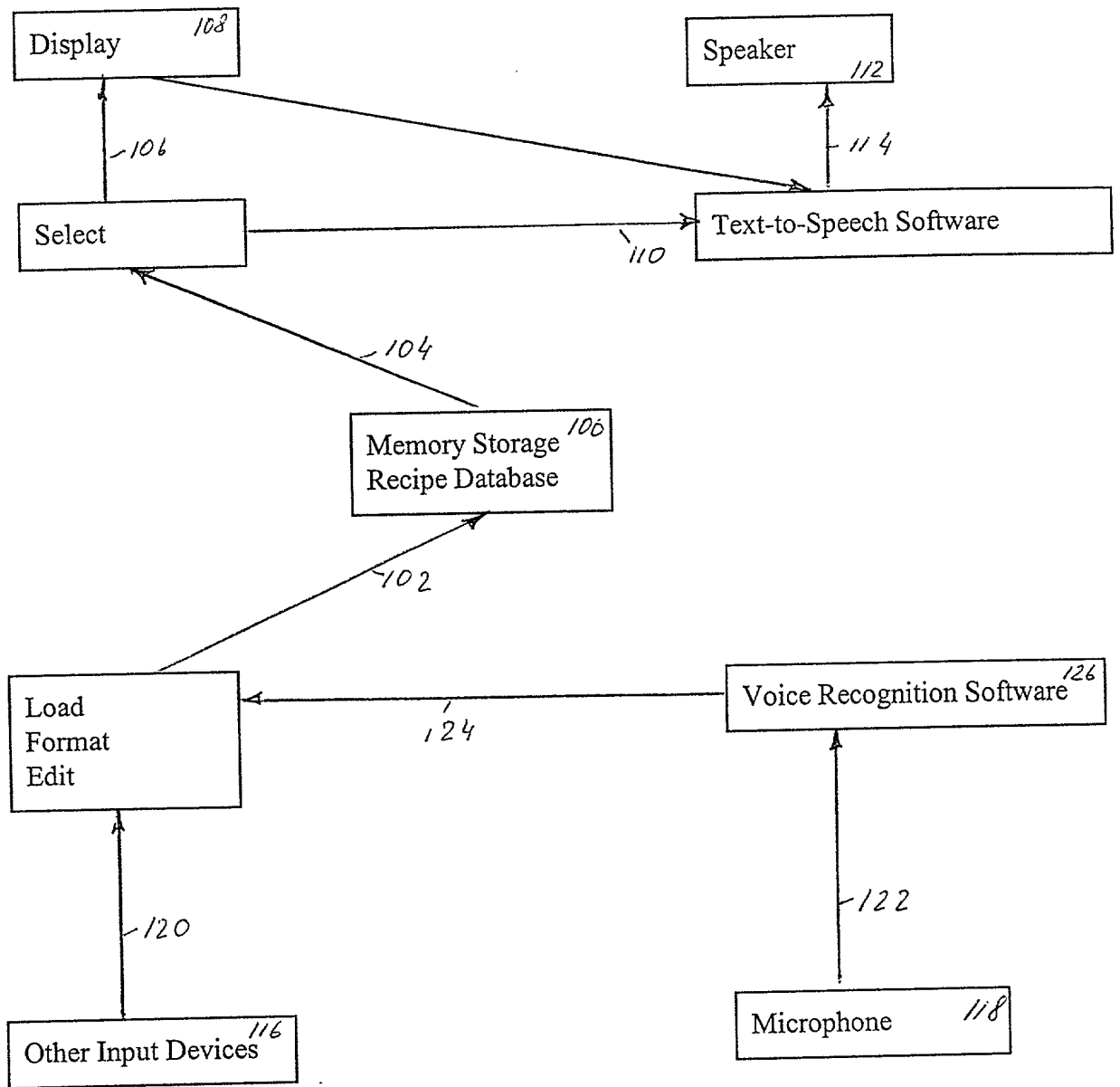


Fig. 2

The Talking Cookbook Data Base Design

Files

Recipe Header
Recipe Part
Recipe Ingredient
Recipe Assembly

Ingredient
Measure
Preparations (individual)
Preparations (linked list of individual preparations)
Course (linked list)

Recipe Header (* indicates a key field)

Data Element	Description	Optional	Default
Recipe Number*	A five digit number assigned by the system	N	
Title	80 character text item naming the recipe	N	
Course	2 character abbreviation obtained from Course File	N	
Parts	1 digit number indicating number of parts to the recipe	N	1
Servings	2 digit number quantifying number of portions served	N	
Scalability	Boolean indicating whether ingredients are scalable	N	True

Recipe Part

Data Element	Description	Optional	Default
Recipe Number*	A five digit number assigned by the system	N	
Part*	1 digit number indicating the part of the recipe	N	1
Part Name	30 character description of part; only for more than 1	Y	
Servings	2 digit number quantifying servings or measure	N	
Measure	Weight or volume from Measure file	N	
Notes	Text item of variable length to assist chef	Y	

Recipe Ingredient

Data Element	Description	Optional	Default
Recipe Number*	A five digit number assigned by the system	N	
Part*	1 digit number indicating the part of the recipe	N	
Ingredient Number*	5 digit number from Ingredient File	N	
Amount	Number indicating quantity of Ingredient (as a range)	N	
Size	Number indicating the size of item (as a range)	Y	
Units	Descriptor associated with some ingredient types (enumerated list)(clove, head, spring, pinch, bunch,)	Y	
Preparation	Pointer to a linked list of preparation types	Y	
Modifier	One of (Small, Medium, Large ...)	Y	
Container	Enumerated list of container types (pkg, jar, can box, .)	Y	
Measure	Weight or volume from Measure file	N	
Comment	30 character text	Y	
Alternate	Pointer to alternative Ingredient Record	Y	Null
Principal	Boolean Indicator of whether ingredient is a principal one	N	False

Recipe Assembly

Data Element	Description	Optional	Default
Recipe Number*	A five digit number assigned by the system	N	
Part*	1 digit number indicating the part of the recipe	N	
Sequence Number*	2 digit number generated by the system	N	
Instruction	Text ending with a period	N	

Ingredient

Data Element	Description	Optional	Default
Ingredient Code*	A five digit number assigned by the system	N	
Description	Text describing the ingredient	N	
Food Type	One from (grain, spice, fruit, vegetable, meat, fish, ...)	N	
Nutritional Values	To be added later	N	

Measure

Data Element	Description	Optional	Default
Measure Code*	A character code	N	
Description	Text describing the weight or volume	N	

Preparations (individual)

Data Element	Description	Optional	Default
Preparation*	One from among (washed, boiled, mashed, fried, ...)	N	

Preparations (linked list)

Data Element	Description	Optional	Default
Preparation*	One from among (washed, boiled, mashed, fried, ...)	N	
Pointer	To next preparation		
Pointer	To previous preparation		

Course

Data Element	Description	Optional	Default
Course Code*	2 Character Code describing a course type	N	
Course Description	One from among (soup, appetizer, entrée, bread, ...)	N	

Fig. 3

Recipe Header

Data Element	Description
Recipe Number*	12345 (a number assigned by the system)
Title	Bruce's Variation on Odd Flavor Chicken
Course	EN (for entrée)
Parts	3
Servings	4
Scalability	Y

Fig. 7

Recipe Part

Recipe #	Part	Part Name	Servings	Measure	Notes
12345	1	Main	4		This dish can be prepared beforehand. The chicken can be cooked the day before, cleaned and cut an hour or so before dinnertime, arranged over lettuce on the platter and left in the refrigerator. The two groups of ingredients for the sauce can be assembled and placed in a bowl and saucepan respectively. The final preparation takes but a few minutes. Since this dish is served cold, it is especially good for summer days. The original Chinese name is Odd Flavor Chicken, because it uses such a variety of ingredients
12345	2	Sauce Group A	4		
12345	3	Sauce Group B	4		

Fig. 4

Recipe Assembly

Recipe #	Part	Sequence #	Text
12345	1	1	Wash and clean the chicken.
12345	1	2	Bring 3 quarts of water to boil in a large, deep pan.
12345	1	3	Submerge the chicken in the boiling water for 15 minutes.
12345	1	4	Turn off the flame and let the chicken cool in the water for at least 20 minutes before taking it out.
12345	1	5	Remove all skin and bones from chicken.
12345	1	6	Break into bite sized pieces and place in refrigerator.
12345	1	7	Wash, shred and arrange the lettuce leaves on a large platter.
12345	1	8	Arrange the chicken over the lettuce.
12345	1	9	Pour the warm sauce (see parts 2 and 3) over the chicken and serve.
12345	2	1	To prepare the sauce, combine the ingredients in Group A in a bowl and let stand for at least 5 minutes.
12345	3	1	In a small pan over a low flame heat the Group B ingredients for about 3 minutes.
12345	3	2	Then pour B into the bowl containing A.
12345	3	3	Mix well.
12345	3	4	The sauce is now ready to pour over the chicken.

Fig. 5

Recipe Ingredients

Recipe	Part	Ingredient	Amount	Size	Units	Preparation	Modifier	Container	Measure	Comment	Alternate	Principal
12345	1	<i>Chicken</i>	1	2-3					Lbs			Y
12345	1	<i>Lettuce</i>	1		<i>Head</i>							N
12345	2	<i>Soy Sauce</i>	4						TB			N
12345	2	<i>Honey</i>	2						TB			N
12345	2	<i>Garlic</i>	1		<i>Clove</i>	<i>Crushed</i>						N
12345	2	<i>Salt</i>	1/2						Tsp			N
12345	3	<i>Peanut Oil</i>	3						TB		<i>Corn Oil</i>	N
12345	3	<i>Corn Oil</i>	3						TB		<i>Peanut Oil</i>	N
12345	3	<i>Scallions</i>	2			<i>Chopped</i>						N
12345	3	<i>Ginger Root</i>	4		<i>Slices</i>	<i>Minced</i>	<i>Fresh</i>					N
12345	3	<i>Szechuen Peppercorn</i>	1/2			<i>Slightly Crushed</i>			Tsp			N
12345	3	<i>Dried Red Pepper</i>	1/4			<i>Crushed</i>			Tsp			N

Note: Italicized columns appear in the data base in coded form; they are shown here in uncoded form for the sake of clarity

Fig. 6

Docket No.

1467.006

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

AN INTERACTIVE TALKING ELECTRONIC COOKBOOK

the specification of which

(check one)

☒ is attached hereto.

☐ was filed on _____ as United States Application No. or PCT International

Application Number _____

and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

(Number) (Country) (Day/Month/Year Filed)

☐

(Number) (Country) (Day/Month/Year Filed)

☐

(Number) (Country) (Day/Month/Year Filed)

☐

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

(Application Serial No.)

(Filing Date)

(Application Serial No.)

(Filing Date)

(Application Serial No.)

(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

09/500,599

2/10/00

pending

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

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